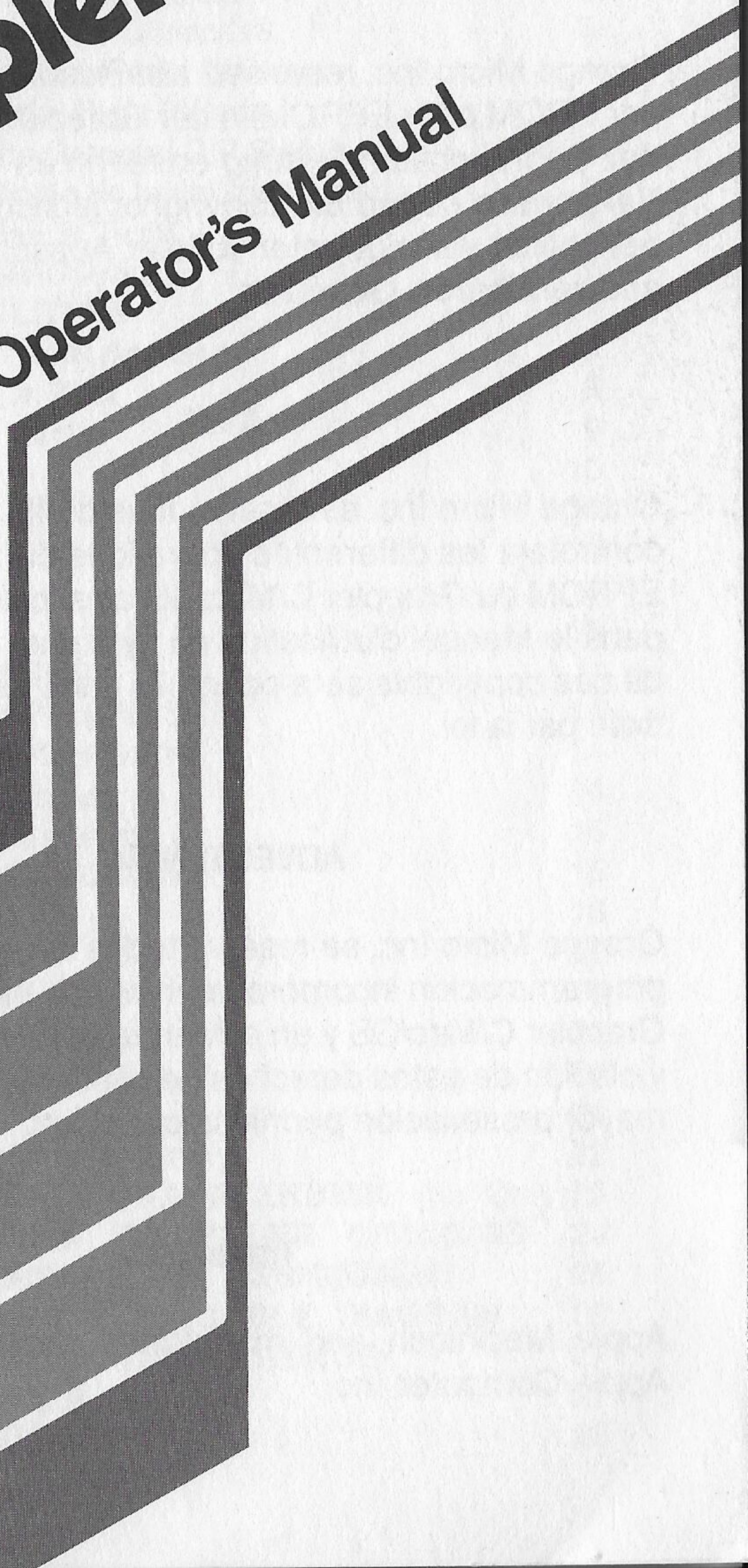


Grapppler[®] C/Mac/GS

Parallel 9 Pin

Operator's Manual

A decorative graphic consisting of multiple nested L-shaped lines, creating a sense of depth and movement, located in the bottom right corner of the cover.

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Grappler® C/Mac/GS

Parallel 9 Pin

Operator's Manual

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GETTING STARTED

INTRODUCTION

In the world of computers and printers, information can be sent or received in two forms: serial or parallel. Information that is sent serially is like a railroad train: each message is a single car that arrives separately as it comes down the track.

On the other hand, imagine an eight lane super highway with eight cars traveling side by side, and all arriving simultaneously. This is how parallel information travels.

Normally, the Apple IIc, IIGS and Macintosh computers send out serial information, expecting a serial printer. The Grappler C/MAC/GS is a unique printer cable that actually converts information from serial to parallel. This conversion allows you to connect your Apple to a parallel printer instead of an ImageWriter, thus increasing the number of printer choices available to you.

Included with the Grappler C/MAC/GS is a disk containing the GRAPPLERDISK software for IIc users and the Grappler GS Desk Accessory utility for the Apple IIGS. **If you are using a IIGS and don't have a 5-1/4" drive, contact your dealer to copy the disk onto your appropriate format.** All features and DISK operation are explained in later sections of this manual.

WHAT'S IN THE PACKAGE:

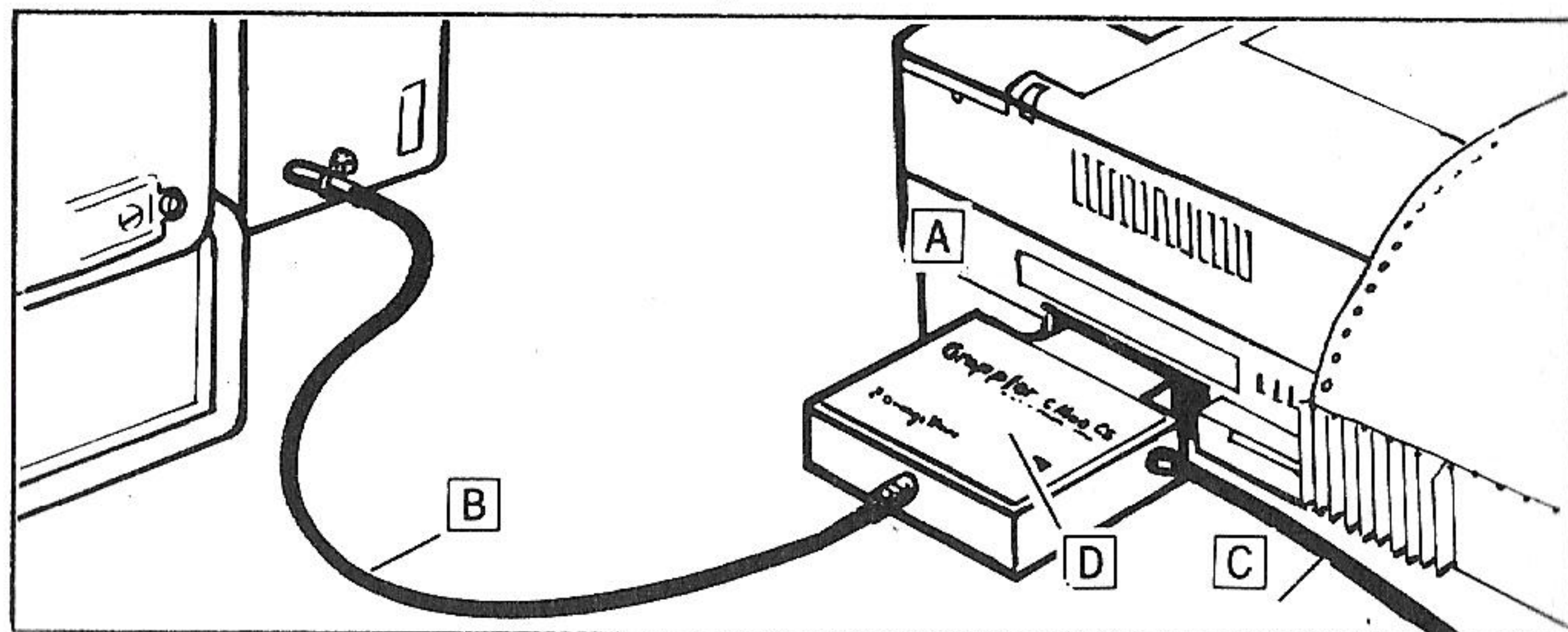
In addition to this manual, you should receive the following with your Grappler C/Mac/GS:

1. One Grappler C/Mac/GS unit
2. One Apple IIc converter cable.
3. One 5-1/4" disk (Apple IIc & IIGS utilities)
4. One power supply

INSTALLING THE GRAPPLER C/MAC/GS

Use these instructions to hook up the Grappler C/MAC/GS.

1. TURN OFF THE POWER TO THE APPLE(MAC) AND TO THE PRINTER.
2. Observe the illustration below and make note of four items: A) printer connector; B) computer cable; C) wall transformer and cable; and D) DIP switch.



3. With the power to all units off, plug the Grappler C/MAC/GS printer connector into your parallel printer port. Refer to your printer user's guide for the location of this port and any specific printer instructions.
4. Locate the computer cable and insert this into the back of the Apple where the small printer symbol is found. See Apple manual for details.
5. Plug the wall transformer into a standard electrical outlet and into the Grappler C/MAC/GS.
6. **Apple IIc only:** If you have altered the baud rate in the PIN assignment for the printer port, this must be reset. Reset to 9600 baud, 8 data bits, 1 stop bit and no parity (default PIN value: 166/1124) prior to using the Grappler C/MAC/GS. See your IIc manual for details.
Apple IIGS only: Press **CONTROL-⌘-ESC** to enter the Classic Desk Accessory menu. Under CONTROL PANEL, the PRINTER PORT must be set for 9600 baud, 8 data bits, 1 stop bit and no parity to operate correctly. Unless you have previously changed these settings, they will be correct from the factory. Under SLOTS, be sure that SLOT #1 is set for PRINTER PORT and not YOUR CARD.
Macintosh only: The ImageWriter driver in the Macintosh system folder will communicate correctly with the Grappler at 9600 baud. Be sure that ImageWriter is selected in the CHOOSER under the  menu, and that AppleTalk is DISCONNECTED if you are using the printer serial port (indicated by a picture of a printer on the Mac case).
7. Follow the instructions under "How to Use the Grappler C/MAC/GS," then set the Grappler C/MAC/GS DIP switch. **WARNING:** Use only the Grappler C/MAC/GS transformer; using any other transformer could harm equipment and void warranty. When the Grappler will be out of use for an extended period, always remove the wall transformer from the electrical outlet. Failure to do so may overheat the unit and damage the transformer.

HOW TO USE THE GRAPPLER C/MAC/GS

To use the Grappler C/MAC/GS takes only three easy steps. The first step is getting to know your software library to find out how many programs support your printer specifically, and how many support the ImageWriter. The second step is making certain that any programs providing printer selection have been installed, or selected within the program, correctly. (Printer installation is fully discussed under STEP 2.) Lastly, having checked your software and verified the printer installation, you

must set the Grappler C/MAC/GS DIP switch.

In order to pave the way for error-free operation of the Grappler C/MAC/GS, it is recommended that you take each of these steps one at a time.

Your printer has to receive certain information to print correctly. This information, or code, is usually sent by the software in use. Most Macintosh, and an increasing number of Apple IIGS applications send only ImageWriter codes. The intelligence in the Grappler intercepts this ImageWriter code and converts it into the code your printer needs to print the same result. However, if your software is set specifically for a non-ImageWriter printer (e.g. Epson, Okidata, etc.), set the Grappler for "Parallel Mode," and not ImageWriter emulation.

STEP 1: Getting to Know Your Software

Only a few minutes are needed to divide your library into groups:

Take those software programs that provide support for the Apple ImageWriter or ImageWriter II printer and set them aside. An example would be Mousepaint for the Apple II, which support only the ImageWriter. **NOTE: virtually all Macintosh and IIGS-specific applications fall into this category.**

Make note of any packages which support your particular parallel printer.

If you are new to computers and have just purchased your Apple and a parallel printer, the Grappler's ImageWriter emulation will be the easiest to use. If you wish to use your software's printer drivers instead of the Grappler's, refer to your software user's guide for printer installation instructions.

STEP 2: Installing the Right Printer

In many cases, a software program must be told what printer is being used. Even if your software names your printer, it is recommended that you select ImageWriter or ImageWriter II, and use the Grappler C/MAC/GS in emulation mode. This will eliminate the need to change Grappler switch settings between applications. Programs like Mousepaint, which are meant specifically for an Apple ImageWriter printer, require no printer installation. Most Mac applications default to ImageWriter support.

NOTE: If your software takes special advantage of your printer, you may wish to use its driver and set the Grappler for Parallel Mode when using that title, but this will require changes in Grappler switch settings with each use. If the program is new and has not been installed, refer to

STEP 3: Setting the GRAPPLER DIP Switch

Once you know your software, you are ready to set the DIP switch according to one of two modes: ImageWriter Emulation Mode or Parallel Mode.

If most of your software is set for Apple ImageWriter, as recommended, then you must use the ImageWriter Emulation Mode. If your software is installed for your specific parallel printer, then you would use the Parallel Mode, which renders the Grappler "transparent" to the code being sent. Again, this should only be used when your program offers special features for your particular printer.

The GRAPPLER DIP switch is comprised of four small switch handles that can be selected to ON or OFF.

To set the DIP switch, use a pen or similar pointed object to change the handle direction (See illustration next page). Depending on your program set the DIP switch to either of the following modes:

1. ImageWriter Emulation Mode: If your program is written only for the Apple ImageWriter or the Apple DMP printer, set the GRAPPLER DIP switch in the ImageWriter Mode according to your specific printer shown below:

ImageWriter Mode GRAPPLER DIP Switch Settings

	DIP Switch Handles			
	A	B	C	D
B&W Printers:				
Brother 1109	ON	OFF	OFF	OFF
Brother 1209, 1509, 1709	ON	ON	OFF	ON
Centronics PS210, PS220	ON	ON	OFF	ON
C.Itoh Prowriter Jr. Plus	ON	ON	OFF	ON
C.Itoh ProWriter, NEC 8023	OFF	OFF	ON	ON
Citizen 120D	OFF	ON	ON	ON
Citizen MSP-10, MSP-15E, MSP-50	ON	ON	OFF	ON
Diconix 300W	ON	ON	OFF	ON
Epson FX-80, 100, FX+ and compatibles	ON	ON	OFF	ON
Epson RX and compatibles	ON	ON	OFF	OFF
Epson LX	ON	OFF	OFF	OFF
Epson MX	OFF	ON	ON	ON
Fujitsu DX2400	ON	ON	OFF	ON
IBM ProPrinter	OFF	ON	OFF	OFF
NEC 8023	OFF	OFF	ON	ON
Okidata 192, 193 (Not IBM versions)*	ON	OFF	ON	OFF
Panasonic 1080i, 1091i series	ON	ON	OFF	OFF
Star Gemini Series: SG, SD, SR, 10X	ON	OFF	OFF	ON

Color Printers:

Epson EX, JX	ON	ON	OFF	ON
C. Itoh C310XPR (in Epson Mode)	ON	ON	OFF	ON
FACIT B3100, B3150	ON	ON	OFF	ON
Okidata 292, 293 (Not IBM versions)**	OFF	ON	ON	OFF

* PRINTER must be set for 8 bit graphics

** May exhibit vertical page displacement when printing in color. For best results when printing in B & W, use Oki 192 settings.

Grappler C/Mac/GS 2.0

Addendum

1. With version 2.0 some dip switch settings in the Grappler C/Mac/GS manual are incorrect. The following is a listing of all settings.

PRINTER	Dip Switch Settings			
Epson FX, EX, JX	ON	ON	OFF	ON
(Epson FX 86 & 286 users should use Epson RX settings)				
Epson RX	ON	ON	OFF	OFF
Epson LX	ON	OFF	OFF	OFF
Epson MX	ON	ON	ON	OFF
Okidata 192	OFF	ON	OFF	ON
Okidata 292	OFF	ON	ON	OFF
Star SG,SD,SR	ON	OFF	OFF	ON
IBM ProPrinter	OFF	ON	OFF	OFF
C. Itoh ProWriter 8510	OFF	OFF	ON	ON
7 Bit Parallel Mode	OFF	ON	ON	ON
8 Bit Parallel Mode	ON	ON	ON	ON

Additional Compatible Printers

Brother 1109	ON	OFF	OFF	OFF
Brother 1209, 1509, 1709	ON	ON	OFF	ON
Centronix PS210, PS 220	ON	ON	OFF	ON
C. Itoh ProWriter JR Plus	ON	ON	OFF	ON
Diconix 300W	ON	ON	OFF	ON
Facit B3100, B3150	ON	ON	OFF	ON
Fujitsu DX2400	ON	ON	OFF	ON
NEC 8023	OFF	OFF	ON	ON
Panasonic 1080i, 1091i	ON	ON	OFF	OFF

SEE BACK FOR ADDITIONAL NOTES

Grappler C/Mac/GS 2.0

Addendum

Page 2

2. All printers, with the exceptions of the Epson FX and Okidata 292, emulate the ImageWriter I to compensate for the printers' lack of reverse linefeed ability. As a result, there is a slight delay at the beginning of printing on the Macintosh and Apple II GS as the ImageWriter driver checks for color capability.

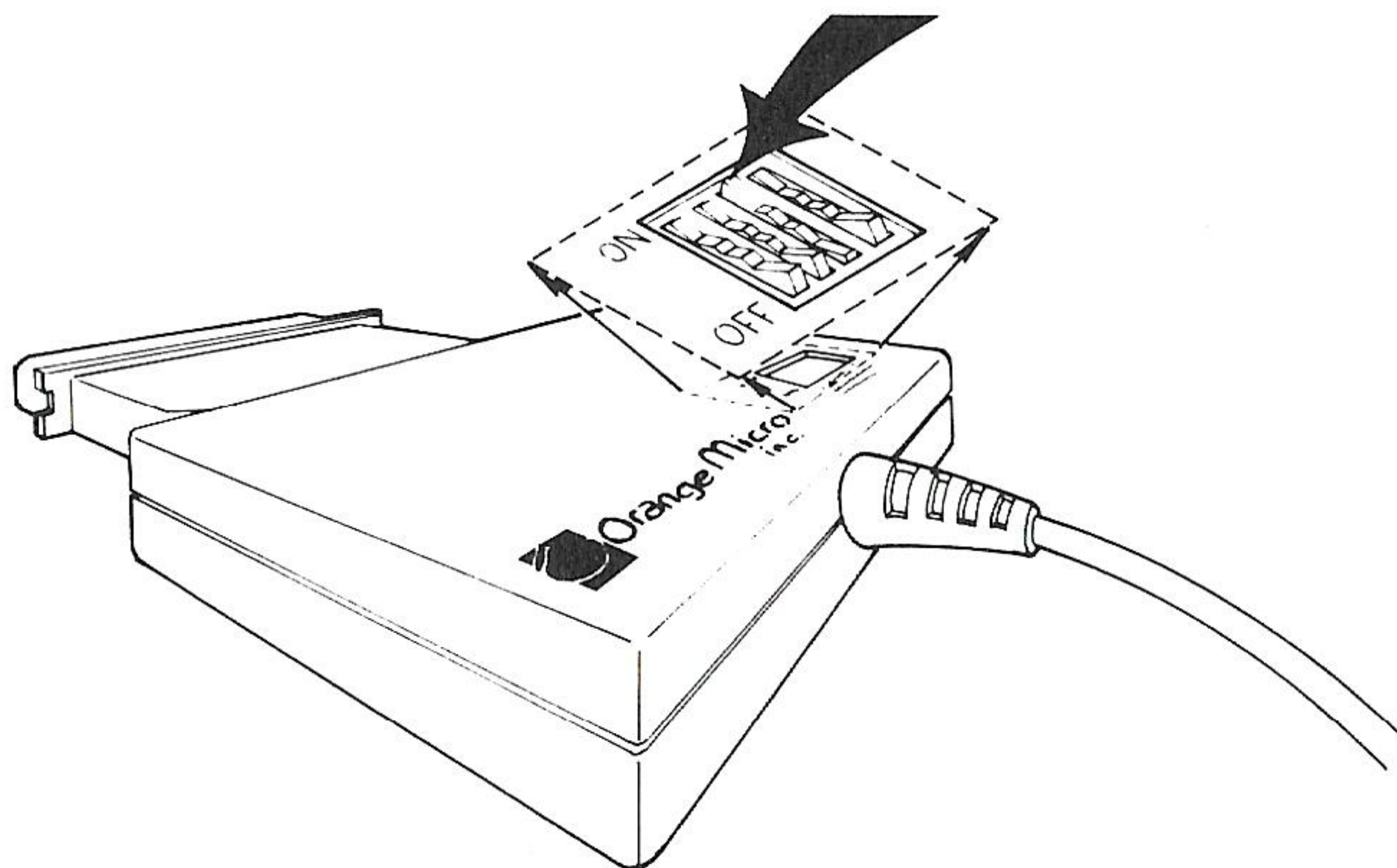
3. Due to the Okidata's inability to reverse the paper back past the top of form, we recommend that Macintosh owners use the Okidata 192 switch settings. If you need to do color then use the 292 settings, but you may experience page alignment problems. If you switch back to the 192 settings after you are done printing color, you may need to restart your Macintosh to "reset" the ImageWriter driver for proper page alignment.

4. Unlike all other Epson FX's, the Epson FX-86 & FX-286 do not support reverse linefeeds. As a result, it is recommended that those users should use the Epson RX settings to help prevent page mis-alignment.

If your printer is not listed, try the Epson FX setting. If this fails, contact your printer manufacturer for compatibility.

2. **Parallel Mode.** If your program is installed for a specific parallel printer, verify that switch handles B, C and D are set in the ON position. If you are printing graphics, the handle A should also be set in the ON position.

The DIP switches are a rocker type switch. In order to set it properly, push down on the ON side to set it ON and down on the down side to set it OFF. Always unplug the Grappler C/Mac/GS power supply while changing the DIP switches. The following illustration shows a setting of ON-ON-OFF-ON



Important Note: Whenever you print text-only on an Apple II in the parallel mode, switch handle A should be set to the off position.

After the GRAPPLER DIP switch has been set to match your printing application, test the work you have done.

Apple IIGS and IIC Installation Test

Use the following test to check your work:

1. Turn on both the Apple computer and your printer. Make sure that the Grappler C/MAC/GS is plugged into the electrical wall socket.
2. Press CONTROL-RESET to reset the system.
3. With the system prompt "]" showing on the computer screen, type: PR# 1

Now hit the Return key five times. Your printer should be printing the prompt character "]" each time you strike the Return key. If not, double check each of your installation procedures and glance over the "Installation Double-Checks" at the end of this section.

Macintosh Installation Tests

1. Insert any Macintosh program into an active drive and turn on the power.

CHOOSE, you must load the ImageWriter Driver into your System folder. Consult your Macintosh manual for details.

3. Select "PRINT CATALOG" or "PRINT DIRECTORY" under the file menu.

NOTE: A few printers do not support reverse line feeds, which is required for total ImageWriter emulation. If the images printing are clear, but not properly aligned, try printing from another application before assuming a Grappler problem.

4. Load any Macintosh application and open a document. Be sure that ImageWriter has been selected in the CHOOSE under the Apple menu. Select "PRINT" under the file menu.
5. For best results when printing text, you need to have fonts loaded into your system that are twice the size as those you are working with on the screen. For example, if you are working on a document in 12 point Times font on the screen, you need to have 24 point Times loaded into the system for your printer to use. In many applications, loaded fonts appear outlined under the font pull-down menu (eg. 10 Point), and non-loaded fonts are not outlined (eg. 36 Point). Consult your Mac manual for information about the Font DA mover.

Installation Double-Checks

If you are experiencing trouble in getting any response from your printer, check the following common problems:

1. Is the cable correctly attached between Grappler C/MAC/GS and printer?
2. Is the Grappler C/MAC/GS transformer plugged into the wall and the interface?
3. Is the Grappler C/MAC/GS connected to the Apple?
4. Is the printer on?
5. Is the printer "on line," or ready to receive information from the computer?
6. Is there paper in the printer?
7. Will your printer "self-test" (see printer manual)?

The above will confirm that all physical connections have been made correctly. If the test does not work, refer to the instructions under "Installing the Grappler" on page 2.

Look at the printout to determine if all characters and functions are being printed as they should be. If not, review the software user's guide to verify printer installation (if it is software designed for the ImageWriter, it will need no installation); then re-check the GRAPPLER DIP switch to see that it is in the correct mode for the software in use (see page 5). If the printed characters are still not correct, a final consideration would be the PIN configuration as described under instruction number 6 of "Installing the Grappler" on Page 3.

APPLE IIGS UTILITIES

THE Grappler GS CLASSIC DESK ACCESSORY (APPLE IIGS ONLY)

Many screen printing functions are available through the Classic Desk Accessory (CDA) menu of the Apple IIGS. When active as a CDA, the Grappler GS software utility allows you to print any screen from virtually any software that allows the use of CDAs, including many Ile-type programs. This is called a SCREEN SHOT. The Grappler GS CDA provides the pull-down menus described in the next section. Once installed on a system, the Grappler GS CDA will work with all software "launched" from that system.

1. **The Grappler GS must be installed as a CDA in order to function properly.** Included on the Grappler utilities disk is an automatic installation routine. Simply turn OFF your Apple IIGS, insert the Grappler utilities into the drive, and turn the power ON. In a few moments, the installation program will appear and ask on which disks you wish to install the Grappler GS. It is strongly recommended that you always back up your software, keeping your original disks in "factory" form, and only install utilities on copies
2. Simply follow the screen instructions, answering with (Y)es or (N)o to install the Grappler GS on any or all of your IIGS system disks. The installation software will scroll through all active drives until you quit, so you can simply switch disks manually for multiple installations.

TO DO A SCREEN SHOT:

3. Put any of the newly-installed disks into the drive, and press **CONTROL-⌘-RESET** to restart the computer. When the program has loaded, press **CONTROL-⌘-ESC** to bring up the CDA menu, which will display the Grappler GS as a selection. This can be done at any time while running the program.
4. Using the UP/DOWN arrows, select Grappler GS and press return. The Grappler C/Mac/GS menus will appear. The next section, "Using Pull-Down Menus," will tell you how to use this screen. For now, press ESC to return to the CDA menu.
5. Select QUIT from the CDA menu. This will return you to the screen visible immediately prior to entering the CDA menu.

IMPORTANT NOTE: If you reset your Apple IIGS at any point, by typing a **CONTROL-⌘-RESET**, starting a self-booting program, or turning the computer off, the disk you are booting must contain the Grappler GS utility if it is to remain active. If the launched disk does not contain the Grappler GS, it will not appear in the CDA menu and will not be accessible.

Using Grappler GS PULL-DOWN MENUS (Apple IIGS only)

Pull down menus give you all the functions of the Grappler C/Mac/GS on-screen. You don't need to remember anything except how to access the menu bar. The rest is spelled out in plain English, right on the screen.

The procedure for executing a command from the menus is straightforward:

1. Access the menu bar
2. Pull down a menu
3. Select a menu item
4. Set a menu item
5. Close the menu
6. Close the menu bar

A "Dialog Box" may appear when an item is selected. Dialog Box use is the same as Menu use.

The menu bar may be accessed through the Apple IIGS CDA menu as described on the preceding page.

Specific Use of Menus

	<u>Using Keyboard</u>	<u>Using Mouse</u>
1. To Select a menu	Use arrow keys or type SHIFT-# (1)	Point mouse
2. To Pull down menu	Press (Return)	Click and Hold
3. Select a menu item	Use arrow keys or type SHIFT-#	Point mouse while holding
4. Set menu item	Press (Return)	Release mouse

If a dialog box appears after step 4:

Select item with arrow keys, SHIFT-# or mouse

Open or set items with (Return) or mouse click

Enter specific responses with the keyboard

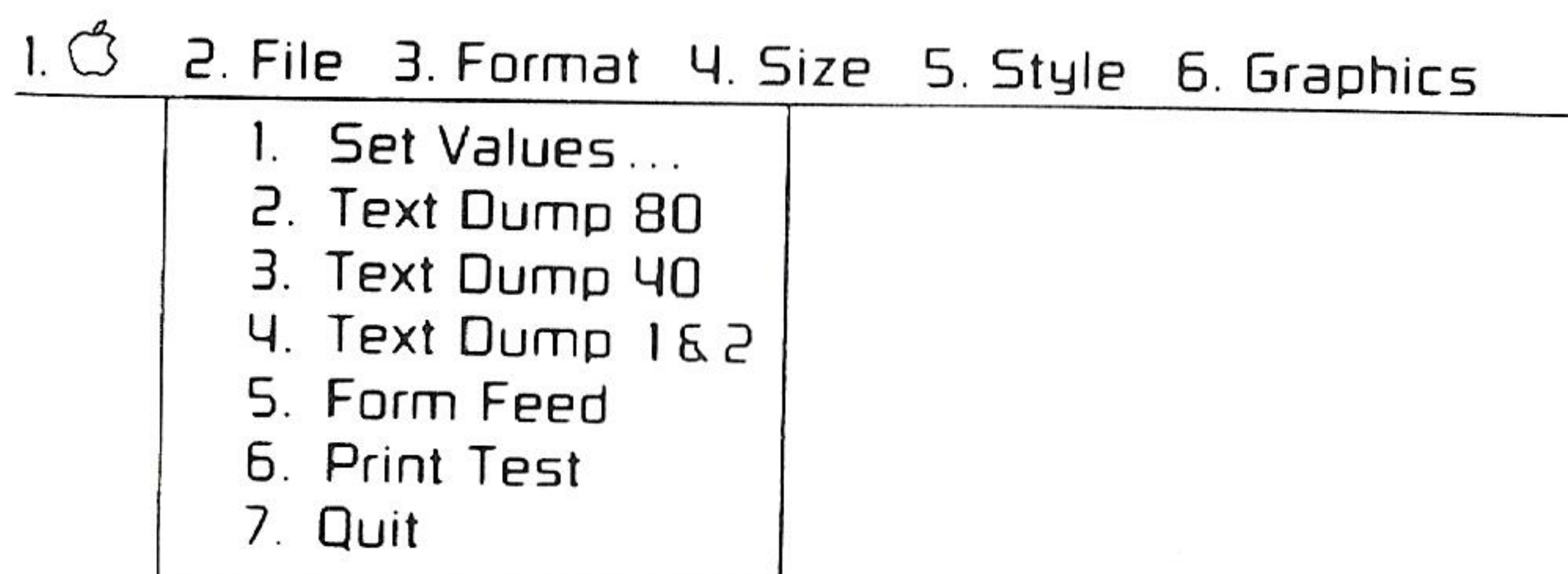
Close dialog box by pressing ESC or clicking on OK box

5. Close menu	Press ESC	(No action required)
6. Leave menu bar	Press ESC	Select QUIT under FILE menu.

(1) You may also select a menu by entering (Shift-#), where "#" is the number or character in front of the desired menu item.

A Pull-Down Menu

This is what the menu bar looks like with an open menu. The numbers preceding the names are used in the SHIFT-# commands. Three dots (...) indicate that a dialog box will appear with that selection. A check mark will precede already selected items.



1. "Apple" Menu

1. **About Grappler C/Mac/GS** - Displays the copyright notice and Grappler C/Mac/GS Version # on screen.
2. **Printer Selection...** - If you are not using ImageWriter emulation, this dialog box lets you specify your printer, sending your printer's codes direct instead of ImageWriter codes.
3. **Troubleshooting** - Displays common incompatibilities between certain combinations of hardware and software and methods of resolving them.

2. "File" Menu

1. **Set Colors...** When selected, a Dialog Box appears allowing you to select the color to be used when printing text. This selection is only available when using a color printer.
2. **Text Dump 80** - Prints from an 80 column wide screen.
3. **Text Dump 40** - Prints from standard 40 column wide screen.
4. **Text Dump 1 & 2** - Prints two 40 column text pages side-by-side (page 1 on the left, page 2 on the right).
5. **Form Feed** - Sends a "top-of-form" command to the printer each time this command is issued. This advances the paper to the next page.
6. **Print Test** - Prints a complete set of ASCII characters.
7. **Quit** - Returns you to where you were in the program just prior to calling the Menu Bar.

3. "Size" Menu

The following commands provide a selection of text sizes to be printed. These sizes vary according to the printer you use.

1. **Expanded** - The text size selected is horizontally elongated by a factor of two.
2. **Pica** - Equivalent to 10 characters per inch.
3. **Elite** - Equivalent to 12 characters per inch.
4. **Condensed** - Approximately 17 characters per inch.

4. "Style" Menu

1. **Draft** - Sets the printer in draft mode.
2. **Double-Strike** - The printer emphasizes text by printing each line twice (two separate passes).
3. **Emphasized** - The printer emphasizes text by striking each dot twice during a single pass. The second dot is slightly offset from the first dot, creating a bold look to the text.
4. **NLQ** - Text is printed using "Near Letter Quality" printing.
5. **Headline** - Text is printed using Expanded and Emphasized features. This is useful for headlines and other unique text applications.
6. **Proportional** - Text is printed with a proportional style type.
7. **Underline** - Each character is underlined when printed.
8. **Italic** - Each character is italicized when printed.
9. **Sub-Script** - Each character is sub-scripted when printed.
10. **Super-Script** - Each character is super-scripted when printed.

NOTE: The Grappler C/Mac/GS cannot generate typestyles unavailable with your particular printer.

5. "Graphic" Menu

Provides selections for printing graphics. Unlike text commands, which remain in effect until cancelled, you must select options each time you want to print a graphics screen.

Before doing anything else, set the proper SCREEN TYPE for your picture. Examples of screen types are Hi-Res, Super Hi-Res, etc. If you are unsure of your correct screen type, try your best guess and then select the SHOW PICTURE option from the GRAPHIC menu. If your picture is displayed, then you have selected the correct screen type. If something other than your complete picture is displayed, then return to the SCREEN TYPE option and try again.

1. **Print** - Causes the printer to start printing the graphics you currently have in the selected screen memory.
2. **Screen Type...** A Dialog Box appears providing the following selections:
 1. **Mix Text and Graphics** - Prints the graphics screen plus the four-line text window beneath it. The printing begins 20 spaces from the left edge of the paper.
 2. **Page 1** - Prints the Hi-Res graphics image from Page 1. Each white screen dot is printed as a black dot.
 3. **Page 2** - Prints the Hi-Res graphics image from Page 2 instead of Page 1.
 4. **Side-By-Side**² - Prints both Hi-Res graphics images (Page 1 on the left, Page 2 on the right).
 5. **Double Hi-Res**³ - Prints the Double Hi-Res graphics image.
 6. **Super Hi-Res** - Prints a graphics image using the 320 x 200 or 640 x 200 dot screen memory.
3. **Invert** - Prints the "inverse" of the image seen on the screen. Normally, white dots on the screen print as black dots on paper. This results in an image which looks like a photographic negative. The Invert command produces an image much like a photograph, where the black portions on the screen print as black on paper.
4. **Rotate**⁴ - Prints the graphic screen image rotated 90 degrees clockwise.
5. **Color** - When selected, prints a color graphics image as defined by the colors in the image itself. When unselected, prints in black and white.
When printing color, be aware that your printer cannot reproduce all of the over 4000 colors that the IIGS can display. For this reason, certain colors appearing different on the screen may appear the same on paper. (For example, light brown and deep orange may appear the same color when printed.)
6. **Hi-Density** - Prints an image using the printers' emphasized print mode.

7. **Aspect Ratio...** A Dialog Box appears providing a selection from 1 to 6. BEST FIT, when selected, will choose the aspect ratio that will fit the image most precisely to the page.
8. **Page Position...** A Dialog Box appears providing a choice of positions:
 1. **Center: Narrow Carriage** - Prints the image centered on a 8 1/2 " carriage.
 2. **Center: Wide Carriage** - Prints the image centered on a 14" carriage. Be sure your printer has a wide carriage.
9. **Enlargement...** A Dialog Box appears providing a choice of enlargements of the printed screen image:
 1. **Double Size** - Prints the image with four dots for every screen dot (two in the vertical direction and two in the horizontal direction). This results in an image twice the normal size.
 2. **Custom Size** - Prints the image using "X" dots for each screen dot in the horizontal direction (XMAG), and "Y" dots for each screen dot in the vertical direction (YMAG):

1. XMAG _____ 2. YMAG _____
- A. **Window Set...** - Allows you to print a portion of your image by setting a window over the part you want printed. If you are using a mouse, move the mouse to the top left corner of the area you want to print. Hold down the mouse button and drag to the lower right corner of the area you want to print. Release the mouse button. If you want to make changes at this point, repeat this procedure until you are satisfied, then print.
If you don't have a mouse, you can use the Window Set feature using the following keyboard procedure. First, position the box with the arrow keys such that the top left corner of this box aligns with the top left corner of the desired window. Hit (Return) to set this position. Next, position the lower right corner of the box such that it aligns with the lower right corner of the desired window. Again, use the arrow keys. You now see a window which contains the image you will print. Hit (Return) to set this position.
- B. **Show Picture...** Will display your selected screen picture. If the expected image is not visible you may have selected the wrong SCREEN TYPE in Graphics selection #2 above. Press any key when through viewing picture to return to Grappler GS menus.

² Cannot be used with Rotate or Double-Size options.

³ Cannot be used with Rotate or Double-Size options.

⁴ Only Hi-Res graphics can be rotated. Text cannot be rotated.

APPLE IIc UTILITIES

When to use the GRAPPLERDISK

The GRAPPLERDISK is a utility program that allows you to print any previously saved graphic file from your Apple IIc. It does not allow you to print directly from a program in progress. Not all programs allow you to save all images. Many games, for example, have no ability to save an image. However, the GRAPPLERDISK is valuable for printing saved graphics with a variety of enhancements, from rotation to enlargement to side by side printing of two different graphics.

Before proceeding to use the GRAPPLERDISK, be certain you have correctly hooked up the Grappler C/MAC/GS and have executed the installation test successfully. Then set up your Apple IIc and GRAPPLER as follows:

1. The Apple IIc must be in 80 column mode to operate the GRAPPLERDISK. Check your keyboard to be certain that the 80 column switch is in the up position.
2. The GRAPPLER DIP switch must be in an ImageWriter Emulation Mode corresponding to your printer (see page 5).

The GRAPPLERDISK software can be used to print graphics in a variety of formats and styles. These are all listed under the GRAPPLERDISK OPTIONS as found on page 22.

How to use the GRAPPLERDISK

How to Read the Screen

Insert the GRAPPLERDISK into the Apple IIc drive. Turn on the power to the Apple IIc and take a look at the screen. After the opening message, press any key to continue with the program.

After a few introductory messages, a drawing will appear in the shape of an index card. The entire GRAPPLERDISK program is made up with index-card type files that allow you to make various selections. You can flip back and forth through the cards simply with a few keystrokes.

When you first bring up the system the following "index card" will appear:

MAIN MENU

- 1 About this disk
- 2 Program set up
- 3 Print graphics
- 4 Quit

This is the MAIN MENU index card. As you advance through

other menus, the line at the top of the card will always indicate where you are currently working. Observe the words at the top of the first card that read: MAIN MENU.

The line at the bottom of the screen contains special instructions for the particular card that you are using. On the MAIN MENU, the bottom line reads "type number, or use arrows." These instructions refer to the highlighted area of the index card. When the GRAPPLERDISK is first started, the highlighted area is <<1 About this Disk>>

How to Move the Highlight

In order to make another program selection, you must move the highlight. This can be done by one of the following two ways:

1. Typing the line number.
2. Using the up and down arrows.

Before beginning to use the program, practice using the highlight. With the MAIN MENU showing on the screen, press the number 2 key on your keyboard. Note that the highlight moves from line number 1, to line number 2. Press the number 3 key. Now press number 1 again. The highlight moves through each of the selections accordingly.

Another way to move the highlight is by using the up and down arrow cursor keys. These two keys are located on the lower right hand corner of the Apple IIc keyboard. If you press either arrow, the highlight will move up or down to the selection you wish.

How to Make a Menu Selection

To make a selection, you must first move the highlight up or down to the selection you wish. Then press the Return key. This will bring up the appropriate index card. For a short exercise in making selections move the highlight on the MAIN MENU to the second line: <<2 Program set up>>. Now press the Return key. Notice how the next index card comes up entitled PROGRAM SET UP. The message in the lower right hand corner reads "ESC to MAIN MENU." In order to return to the MAIN MENU, merely press the ESC key located in the upper left hand corner of the keyboard.

MAIN MENU Selections

The MAIN MENU consists of 4 selections:

- 1 About this disk
- 2 Program set up
- 3 Print Graphics
- 4 Quit

Each of these selections are described below under the corresponding heading.

1. About this Disk

This index card selection contains any special information about your GRAPPLERDISK version. If there have been any changes or updates since the last version, this card will tell you what those changes are. To read this file, press the number 1 on your keyboard. Use the up and down arrow keys to advance the text inside the index card. Press the ESC key to return to the MAIN MENU.

2. Program Set Up

Before using the GRAPPLERDISK, you must be sure that the program set up meets your requirements. The set up identifies which printer you are using, the DOS used for saving the graphics picture to be printed and whether the line feed should be set to on or off. Each of these will be explained in the following paragraphs.

With the MAIN MENU on the screen, place the highlight on <<2 Program set up>>. Now press the Return key. The next index card will appear with the three choices shown here on the left:

- | | | |
|---|------------------|-----------------|
| 1 | Select printer | (Epson Printer) |
| 2 | Select DOS | (ProDOS) |
| 3 | Line feed ON/OFF | (Line Feed OFF) |

Note: the items in parentheses are the pre-defined choices that were made at the factory prior to shipping. If you need to change any of the pre-defined choices, move the highlight to the selection that needs changing and read the following instructions.

Select Printer

If your printer is not an Epson or Epson compatible, you must change the set up accordingly. With the Program set up index card on your screen, place the highlight on <<1 select printer>>. Then press the Return key.

The SELECT PRINTER index card will show up on your screen with several printer selections. Move the highlight to your printer name. Then press the Return key.

Once you select your printer, the program will make the change for you and then return you to the set up menu with the <<1 Select Printer>> highlighted. From here you may either press the ESC key to return to the MAIN MENU, or else move the highlight to an alternative set up selection.

NOTE: The GRAPPLERDISK operates only when the GRAPPLER DIP switch setting is in the ImageWriter Emulation Mode.

Select DOS

"The DOS" selection refers to the disk operating system originally used to create the graphics picture. Apple Computer has made two disk operating systems: DOS 3.3 and ProDOS. Normally, ProDOS cannot be used to read a DOS 3.3 file; and conversely, DOS 3.3 cannot be used to read a ProDOS file.

If your picture was created under ProDOS, you will not need to change the GRAPPLERDISK as it was shipped.

However, if you have saved your picture under DOS 3.3, the DOS selection on the GRAPPLER should be changed to DOS 3.3.

To make an alternative DOS selection from the PROGRAM SET UP index card, move the highlight to <<2 Select DOS>>. The SELECT DOS index card will appear on the screen. Now move the highlight to the correct DOS selection. Then press the Return key. Once the program has made the selection, the PROGRAM SET UP index card will re-appear on the screen.

Line Feed ON/OFF

In order for the printer to advance after each printed line, the printer must receive a line feed either from itself or from the GRAPPLERDISK. If there were no line feeds, the printer would print every new line on the top of an old line without advancing.

Refer to your printer operator's manual. Check the printer DIP switches to see if the printer is set up to issue a line feed. If the printer issues a line feed, the GRAPPLERDISK may be left as it was shipped from the factory (line feed OFF). However, if the printer line feed is OFF, the GRAPPLERDISK should be changed to send a line feed. To change the line feed selection, simply move the highlight on the PROGRAM SET UP index card to <<Line feed ON/Off>>. Then press the Return key. With the line feed options displayed, move the highlight to the selection you wish, and press Return again. The program will automatically return to the PROGRAM SET UP index card.

NOTE: If both GRAPPLERDISK and printer are issuing line feeds, you will receive a double line feed on the printout. This will cause the graphics image to appear with every other line printed.

3. Print Graphics

Before you use the Print Graphics section, make sure that you have read the Program Set Up above and that both the printer and DOS have been correctly selected.

Anytime you wish to print a graphics picture, it is recommended that you use this sequence: load, display, print. If you attempt to print a picture without loading it, you will get an error message "Please load picture before proceeding."

Insert your GRAPPLERDISK into the Apple IIc, and turn on the computer. When the MAIN MENU appears on the screen, move the highlight to <<3 Print Graphics>>. Press the Return key. The PRINT GRAPHICS index card will appear with three selections.

- 1 Load Picture
- 2 Display Picture
- 3 Print Picture

Load Picture

In order to print a graphics picture, you must first load the picture into one of three sections of memory. In the Apple IIc, these sections of memory are called Page 1, Page 2, or Double HI-RES.

When you load a picture, you should know how the picture was created. A Double HI-RES picture must be loaded as Double HI-RES, or else only part of the picture will be printed.

NOTE: Double HI-RES is actually two memory sections combined: MAIN Page 1 and AUX Page 1. A picture must be created and saved as Double HI-RES in order for it to be printed as such. Mousepaint and other popular graphics packages create images either for Page 1 or Page 2.

Dazzledraw creates pictures in Double HI-RES.

With the PRINT GRAPHICS index card on your screen and the highlight on <<1 Load picture>>press the Return key.

Three important messages will appear:

insert data disk	(in lower left corner of screen)
Enter filename:	(in the middle of the index card)
Return for catalog	(at the bottom of the index card)

Your next step is to insert your data disk into the disk drive.

The "data disk" is the disk that holds the file or graphics picture that you wish to print.

If your Apple IIc has no other disk drives attached, then remove the GRAPPLERDISK and insert the data disk in the main drive. If you have other drives attached to the IIc, insert the data disk in any one of those drives. Close the drive door.

NOTE: You may wish to use the sample graphics files found on the GRAPPLERDISK. In this case, leave the GRAPPLERDISK in the disk drive.

If you do not remember the name of the file you wish to print, press the Return key. The first five files from the data disk will be displayed on the screen (the GRAPPLERDISK will display the sample files). If there are more than five files on the disk, each time you press Return the program will display the next five files until you arrive back at the original LOAD PICTURE index card. When you find the name of the file you wish to print, make a note of it.

Now type the name of the file. A small rectangular block (known as the "cursor") will move as you type. If you make an error, backspace with the left arrow key located on the lowest row of your keyboard. It is normal for the name of the file to wrap around to the next line. If using ProDOS, you must enter the name of the prefix (the name of the disk) and then the path name (the name of the file itself) in this sample format:

/PREFIX/PATHNAME

If you are using DOS 3.3, you will only need to enter the name of the file.

Once the entry has been completed, press the Return key. Your next message will appear at the bottom of the index card:

HI-RES PICTURE
HI-RES PICTURE INTO PAGE 2
DOUBLE HI-RES PICTURE

The number after "PAGE" reminds you of the area of memory into which the graphics picture will currently be loaded. If you wish the picture loaded into Page 1, press Return. In order to load the picture into Page 2 or Double HI-RES, you must move the highlight to that selection and then press Return. (NOTE: Double HI-RES uses Page 1. At any one time, you can only load Page 1 and Page 2; or Double HI-RES by itself.)

Once you have made your selection, the GRAPPLERDISK will load the graphics picture into the selected area of memory. If you load a picture that is not on the disk or you forget to close the drive door, you will get either of two messages: FILE NOT FOUND or DISK READ ERROR. To recover from the error, check the drive door and press the Return key.

Display Picture

After loading a picture, the display function allows you to view that picture to verify that it is the one you want. From the PRINT GRAPHICS index card, move the highlight to << 2 Display picture>>. Press the Return key. The following message will appear:

HI-RES PICTURE
HI-RES PICTURE INTO PAGE 2
DOUBLE HI-RES PICTURE

If you want Page 1, press the Return key. To select Page 2 or Double HI-RES, move the highlight accordingly and then press Return. Before the picture is displayed, this message will appear:

After viewing the picture, Press any key to return to the graphics printing menu.

While the picture is being displayed, remember that pressing any key will bring you back to the PRINT GRAPHICS index card.

If the picture displayed has vertical spaces running through it, you have loaded a non-double HI-RES picture (a picture created for Page 1 or Page 2) into the Double HI-RES area of memory. This picture should be reloaded as Page 1 or Page 2 before printing.

Print Picture

After the picture has been displayed, move the highlight on the PRINT GRAPHICS index card to <<Print picture>> and press the Return key. The screen will list the following options:

1 Normal size	6 Page 2
2 Double size	7 Page 1 & 2
3 Emphasize	8 Double Hi-Res
4 Inverse	9 Correction
5 Rotate	

See page 22, for a detailed explanation of each option. To print a picture, select the area of memory where the picture is stored, add any options, and then press the Return key. A sample might be: 1,5 (press Return) which means "print the contents of Page 1, rotated." Type in the numbers, separated by commas, and then press the Return key to execute the command. The graphics will then be printed.

Printing Guidelines

Whenever entering options, follow these guidelines:

1. Be sure to specify the area of memory if other than Page 1. If you want Page 2, specify Page 2.
2. Separate all options by a comma. For example: 6,5,2 will print the graphics picture in Page 2, double size and rotated.
3. If two entries are contradictory, the later entry will prevail over a former entry. If you press 1 (for Page 1) and then press 6 (for Page 2), only page 2 will be printed by the GRAPPLERDISK.
4. An entry of number 9 will cause the program to ignore all previous entries.
5. The Return key must be pressed to execute the command.

Printing Exceptions

Selecting print options from the GRAPPLERDISK is subject to these exceptions:

1. Selection 7 "Page 1 & 2" - Requires a wide carriage (132 column) printer.
2. Selection 8 "Double Hi-Res" - If you load a Double HI-RES picture, you must use this selection.

Any of these combinations are unacceptable to the GRAPPLERDISK:

2,7	Double size, Page 1 & 2
5,8	Rotate, Double HI-RES
5,7	Rotate Page 1 & 2
7,8	Page 1 & 2, Double HI-RES

If you enter any of the above combinations, a warning will flash on the screen for five seconds:

INVALID COMBINATION: RE-ENTER OPTIONS

After this warning has completed flashing, the screen will clear and you will be able to enter a new list of options.

4. Quit

Selecting "Quit" indicates that you have finished using the GRAPPLERDISK and wish to return to DOS (disk operating system) or some other program.

On the MAIN MENU move the highlight to <<4 Quit>> and press the Return key. This message will appear:

ENTER PREFIX (PRESS 'RETURN' TO ACCEPT)

If you wish to return to ProDOS, simply re-boot the system by pressing the **CONTROL-⌘-RESET** keys simultaneously.

Returning to a program in ProDOS

If you are returning to an applications program in ProDOS, remove the GRAPPLERDISK and insert your program disk. Type in the PREFIX (name of the disk) and press the Return key. The following message will appear:

ENTER PATHNAME OF NEXT APPLICATION

Type in the pathname (name of the file) and press the Return key.

Returning to a program in DOS 3.3

Remove the GRAPPLERDISK and insert your DOS 3.3 program disk. Then re-boot the system by pressing the **CONTROL-⌘-RESET** keys simultaneously, releasing the RESET key first.

GRAPPLERDISK OPTIONS SUMMARY

ALL GRAPPLERDISK options are reviewed in this list. Remember that whenever stringing options together, you are subject to the guidelines and exceptions listed on page 21.

1. Normal size - Sends the graphics image in Page 1 to the printer. Every white dot on the screen appears as a black dot on the paper.
2. Double size - Print the graphics image in Page 1 double size. A double size image is actually 4 times the original's area, printing 4 dots for every 1 (2x and 2y). On all narrow carriage, 80 column printers (except PROWRITER) Double size images must also be rotated.
3. Emphasize - Prints an "emphasized" image. When this option is used, the printer will print two closely spaced dots for every one it would normally print. The image becomes denser, but takes twice as long to print.
4. Inverse - Inverts the image before printing. With option 1, every white dot on the screen is printed as black dot on the paper. This makes an image appear like a negative photograph. Using the inverse option will print the black portions of the screen as black on the paper.
5. Rotate - Rotate the graphics image ninety degrees clockwise. This option cannot be used with option 8: Double HI-RES, or option 7: Page 1 and 2.

6. Page 2 - Sends the graphics image in Page 2 to the printer. Every white dot on the screen appears a black dot on the paper.
7. Page 1 & 2 - Sends both the graphics images in Page 1 and Page 2 to the printer. This option cannot be used with option 8: Double HI-RES, option 5: Rotate, or option 2: Double size.
8. Double Hi-Res - Sends a graphics image created with a Double HI-RES graphics program (such as Dazzledraw) to the printer. Double HI-RES graphics actually doubles the number of dots per line in Page 1 from 280 to 560. Double HI-RES can only be used with options 3 and 4.
9. Correction - Whenever this option is used, all previous entries in a string are ignored.
10. Return - In order to print the graphics image, you must enter your options and then press the Return key. Pressing Return without entering any options automatically tells the GRAPPLERDISK to print the image in Normal size (see option number 1 above.)

TROUBLESHOOTING - GRAPPLERDISK (IIC only)

These error conditions may appear during the course of operating the GRAPPLERDISK.

GRAPPLERDISK will not boot/operate - In order to use the GRAPPLERDISK on the Apple IIC, the GRAPPLER DIP switch must be in any ImageWriter Emulation Mode setting.

FILE NOT FOUND - When loading a picture under the PRINT GRAPHICS index card, you will receive a FILE NOT FOUND message if the file with the graphics picture cannot be found on the disk(s). This can also occur if you have mis-selected the DOS under the PROGRAM SET UP. Press the ESC key to recover from the error. Re-enter the "Load picture" section and press Return to review the catalog. FILE NOT FOUND can occur if the "caps lock" key has not been depressed and you are attempting to enter a filename in lower case letters.

DISK READ ERROR - When there is no disk in the disk drive or the disk drive door has not been closed, then you will receive a DISK READ ERROR. To recover, check disk drive(s), close drive door, and press the ESC key.

NOT A BINARY FILE - A graphics image is always saved in a binary format. The NOT A BINARY FILE message occurs

when you attempt to access a file under DOS 3.3 which is not a binary type. To recover, re-enter the "Load picture" section, and press Return to review the catalog.

<Please load picture before proceeding.> - This message occurs when the picture you wish to print has not been loaded into the graphics memory. To recover, return to "Load picture" and load the picture in a particular graphics area of memory.

Incorrect catalog display (Blank screen or meaningless symbols). - This error occurs when there is a conflict between the DOS selected under the PROGRAM SET UP and the actual DOS on the data diskette. To recover, go back to PROGRAM SET UP and re-select the DOS that reflects the DOS on the data diskette.

Printer paper not advancing after each printed line.
See "Line Feed ON/OFF" discussion on Page 17.

TROUBLESHOOTING-- GRAPPLER C/MAC/GS

These are a few of the problems that might occur while using the Grappler C/Mac/GS printer interface.

No Printing and/or "Garbage" Printing - Indicates that printer selection is incorrect in the CHOOSER or the application, the computer is sending incorrect serial data (baud rate, stop bits, etc.), or that GRAPPLER DIP switch has not been correctly set. To recover, recheck both the printer selection under your application's SET-UP and the GRAPPLER DIP switch setting for your printer.

See also: Graphics/Text Switch below, and instruction #6 under "Installing Grappler C/MAC/GS" on page 3.

Graphics/Text Switch - Failure to reset GRAPPLER DIP switch handle D in the parallel mode when changing printing from text to graphics or from graphics to text may result in a number of printing problems. If you attempt to print text when switch D is in the graphics position (ON), you may get italics or certain printer graphics characters. If you attempt to print graphics while switch D is in the text position (OFF), then you may get thin white lines running through the graphics picture. Set the GRAPPLER DIP switch in parallel mode for text or graphics in accordance with the instructions on page 5

White Horizontal Lines - Check the printer's DIP switch. Some

printers have an option for controlling the eighth data bit. If this option is available, make sure your printer is set for EIGHT data bits. If you are using the Grappler C/Mac/GS in Parallel Mode and are printing graphics, failure to set switch D to the ON position will also create horizontal white lines.

All Text is Printed In Italics (*IIC AND IIGS*) - If you are using the Grappler C/Mac/GS in parallel mode to print text documents, set Switch D to the OFF position.

Pages do not Properly Align in Multiple Page Documents- This problem is most often caused by the printer's inability to execute a Reverse Line Feed. The Apple printer often moves the paper backwards as part of its positioning routine, so if your particular model cannot do this, the precise page location will be lost. Certain applications (most notably MacWrite) exhibit page misalignment even on the Apple ImageWriter II. The extent of the problem can vary widely between applications, depending on their use of Reverse Line Feed. Currently, the Epson FX86e, 286e, MX, RX, the Okidata 190 series, the Star Micronics SD and SG, Delta and Gemini series, Facit 4500, OTC 700, 800 series and the Panasonic 1080 and 1090 series are known to exhibit this problem. Further updates may be available on the Grappler's box top.

The best way to work around this is to print only a few pages at a time, realigning the paper before continuing, or to use single sheets when printing longer documents.

To print to a Daisy Wheel printer or to use your printers built-in fonts (For Macintosh users only)

From Microsoft Word:

- 1) Find the *Serial Printer* and *Typewriter* files on your original Microsoft Word disks.
- 2) Copy these files to the System Folder of the disk you normally start-up from when running Microsoft Word.
- 3) Restart your Macintosh.
- 4) Pull down the Apple Menu and select the *Serial Printer* and *Typewriter* in the chooser.
- 5) Make sure the Settings are 9600 baud and that the port where the Grappler C/Mac/GS is plugged in is set correctly.

From Microsoft Excel:

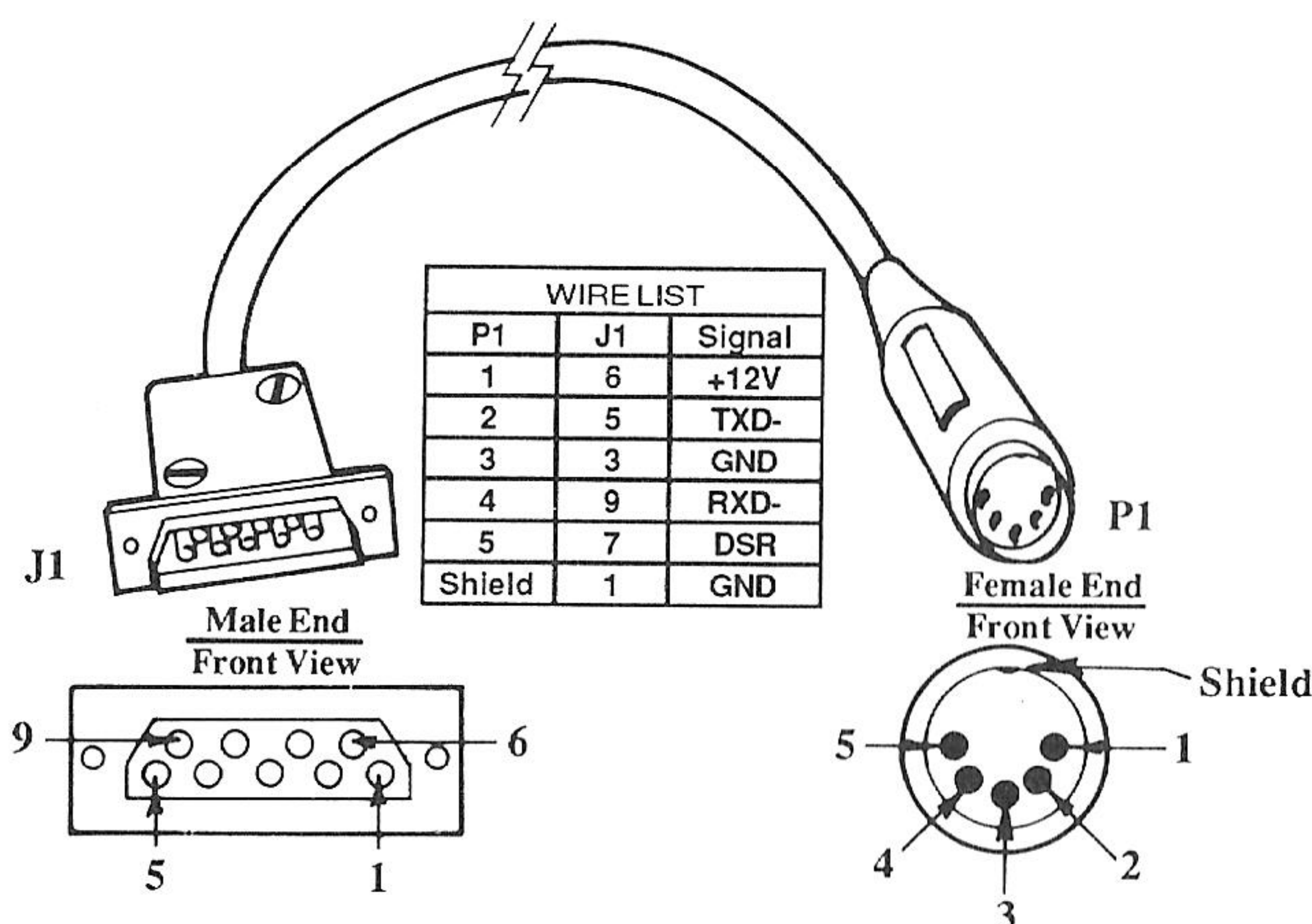
- 1) Select *Printer Setup* from under the File menu.
- 2) Turn on the TTY and 9600 baud selections and make sure the proper printer port is selected.

These drivers will only work with the above two applications.

PARALLEL INTERFACE PIN ASSIGNMENT

Pins	Signal	Direction
1	Strobe	Out
2	Data Bit 1	Out
3	Data Bit 2	Out
4	Data Bit 3	Out
5	Data Bit 4	Out
6	Data Bit 5	Out
7	Data Bit 6	Out
8	Data Bit 7	Out
9	Data Bit 8	Out
10	ACK	IN
11	Busy	IN
12	Paper Empty	IN
13-16	No Connect	
17	Ground	
18	No Connect	
19-29	Ground	
30-36	No Connect	

GRAPPLER TO 512K MAC CABLE DIAGRAM



RADIO FREQUENCY INTERFERENCE

This equipment generates and uses radio frequency energy, and if not installed and used properly in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for class B computing device in accordance with the specifications in Subpart j of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient the receiving antenna.
2. Relocate the computer into a different outlet so that the computer and receiver are on different branch circuits.
3. Consult the dealer or an experienced radio/television technician for additional suggestions.

Shielded cables must be used with this unit to meet compliance requirements of the FCC.

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LIMITED WARRANTY

Every Grappler C/MAC/GS board is fully tested and checked for quality prior to shipment. It is warranted to be free from defects in materials and workmanship for a period of **one (1) year** from the date of purchase. During that time period, Orange Micro Inc. will, at no charge to the purchaser of record, repair or replace any defective unit returned to its Service Department in accordance with the following instructions:

NOTE: Do NOT return the Grappler C/MAC/GS to Orange Micro Inc. until you have received a Return Authorization number. Phone the Orange Micro Technical Support Department at 714/779-2772 between 8am and 1pm PST to obtain a Return Authorization Number.

1. Provide Orange Micro Inc. with: Model, Serial Number, Proof of Purchase with Date, Return Address, and preferred return shipping method. Enclose a clear description of the problem experienced and any sample printouts showing the problem, if possible. Be sure that your printer properly executes its "self test" as described in its own documentation.
2. Ship in the original carton or securely packed in a cardboard carton with at least two inches of cushioned packing material on all sides. Mark the package "FRAGILE" and ship via UPS, Parcel Post, or Air Freight, insured and prepaid.

NOTE: Do not send COLLECT - collect shipments will be refused and returned to sender.

Orange Micro Inc. disclaims any liability to users of the Grappler C/MAC/GS for consequential damages of any kind arising from or connected with the use of the Grappler C/MAC/GS board.

This warranty is void in cases of misuse, abuse, abnormal conditions of operations or attempts to alter or modify the function of a part or assembly.

This limited warranty is in lieu of all other warranties expressed or implied, and no representative or other person is authorized to represent or assume for Orange Micro Inc. any warranty liability beyond that set forth herein.

This warranty gives you specific legal rights, and you may also have additional rights which vary from state to state. The warranty expressed herein applies only to the Grappler C/MAC/GS sold and used in the United States of America.



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